



Five-Year Review Report

Third Five-Year Review
For the
Old Mill Superfund Site
Rock Creek, Ohio

September 2006

PREPARED BY:

U.S. Environmental Protection Agency
Region 5

Approved by:

Date:

A handwritten signature in cursive script, reading "Richard C. Karl".

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9.28.06

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List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DCE	Dichloroethene
EPA	United States Environmental Protection Agency
IC	Institutional Control
LTMP	Long-Term Monitoring Plan
MCL	Maximum Contaminant Level
MNA	Monitored Natural Attenuation
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OEPA	Ohio Environmental Protection Agency
PCB	Polychlorinated Biphenyl
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objectives
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SDMS	Superfund Data Management System

SOW	Statement of Work
TCE	Trichloroethene
UECA	Uniform Environmental Covenants Act
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

Executive Summary

The remedy for the Old Mill Superfund Site, as stipulated in the 1985 Record of Decision (ROD), consisted of the removal and off-site disposal of 95% of the contaminants in the soil; demolition of buildings and silos located on the site and disposal of the debris; groundwater extraction and treatment for an estimated period of 30 years, until a target groundwater risk level of $10E-5$ is reached; and placement of use restrictions on the groundwater by the State of Ohio for as long as concentrations in the plume remain above a $10E-6$ carcinogenic risk level.

The Remedial Action was fund-financed by the U.S. EPA, with the Ohio EPA contributing its 10% cost share under terms of a State Superfund contract. The U.S. Army Corps of Engineers (USACE) conducted oversight of the RA. On-site mobilization activities began during the week of May 9, 1988.

The U.S. EPA contracted out operation and maintenance (O&M) activities at the Site from August 1989 until September 2000. Per an agreement with the U.S. EPA, the State of Ohio assumed O&M responsibilities for the Site in January 2001, and operated the Site until April 29, 2002. The PRP Group assumed the O&M responsibilities for the Site on April 29, 2002 pursuant to terms of the Consent Decree entered on March 27, 2002.

The review indicates that the remedy is effective and the remedy is protective of human health and the environment in the short term. Institutional controls required by the ROD will be evaluated to assess their protectiveness in the long term. Long-term protectiveness will be ensured by implementing, maintaining and monitoring effective ICs as well as maintaining the remedy components. To ensure long-term protectiveness of the remedy, an Institutional Control Plan will be implemented at the Site.

Five Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Old Mill Superfund Site		
EPA ID (from WasteLAN): OHD980510200		
Region: 5	State: OH	City/County: Rock Creek/Ashtabula
SITE STATUS		
NPL status: <input type="checkbox"/> Final <input type="checkbox"/> Deleted <input checked="" type="checkbox"/> Other (specify) Third Five-year Review		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs?* <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion date: 9/30/91	
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
REVIEW STATUS		
Lead agency: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: Linda Kern		
Author title: Remedial Project Manager	Author affiliation: U.S. EPA	
Review period:** May 5, 2006 to September 2006		
Date(s) of site inspection: August 17, 2006 (performed by the Ohio EPA)		
Type of review: <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Post-SARA <input checked="" type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Regional Discretion </div>		
Review number: <input type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input checked="" type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Actual RA Onsite Construction at OU#_____ <input type="checkbox"/> Actual RA Start at OU#_____ </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Other (specify) </div>		
Triggering action date (from WasteLAN): 09/28/2001		
Due date (five years after triggering action date): 09/ 28/2006		

Issues:

- 1) Analysis of the aquifer use restrictions in place at the site is required and an Institutional Control Study and Plan should be completed;
- 2) Assure long-term stewardship of the Site;
- 3) There is a possibility that the contaminated groundwater plume is migrating to the west, noted by TCE levels, above MCLs, in monitoring well RWSH-4 during the 2004 groundwater sampling event; and
- 4) The target compound list of analytes may require revision.

Recommendations and Follow-up Actions:

- 1) Complete the Institutional Control Study and Plan for the Site;
- 2) Implement Institutional Control Plan to assure long-term stewardship of the Site;
- 3) As part of ground water monitoring at the site, continue to monitor RWSH-4 for possible plume migration. If migration is evident an additional monitoring well should be required further downgradient of this location.
- 4) Upon receipt of the 2005 analytical data in October 2007, evaluate whether to modify the target compound list for the site.

Protectiveness Statement:

The review indicates that the remedy is effective and the remedy is protective of human health and the environment in the short term. Institutional controls required by the ROD will be evaluated to assess their protectiveness in the long term. Long-term protectiveness will be ensured by implementing, maintaining and monitoring effective ICs as well as maintaining the remedy components. To ensure long-term protectiveness of the remedy, an Institutional Control Plan will be implemented at the Site.

Other Comments:

None

**Third Five-Year Review Report
For the
Old Mill Superfund Site
Rock Creek, Ohio
Ashtabula County, Ohio**

I. INTRODUCTION

The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

U.S. EPA is preparing this Five-Year Review report pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA Section 121 states:

“If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.”

U.S. EPA interpreted this requirement further in the NCP; 40 FR Section 300.430(f)(4)(ii) states:

“If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.”

The U.S. Environmental Protection Agency conducted the five-year review of the remedy implemented at the Old Mill Superfund site in Rock Creek, Ashtabula County, Ohio (“the Site”). This review was conducted by the U.S. EPA Project Manager, with the assistance of the Ohio EPA Project Coordinator, for the entire Old Mill Site from May 2006 through September 2006.

This is the third five-year review for the Old Mill Site. The triggering action for the review is the previous five-year review dated September 28, 2001. The five-year review is required as a matter of policy since the 1985 ROD was signed before the effective date of SARA (October 17, 1986) and the remedial action leaves hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure.

II. SITE CHRONOLOGY

Event	Date
Drum Removal	November 1981 – October 1982
EPA Proposed Site to NPL	December 30, 1982
NPL Listing becomes Final	September 8, 1983
Remedial Investigation Performed	August 1983 – December 1984
Notice Letters sent to PRPs	September 1983
Final RI Report issued	December 3, 1984
Administrative Order issued to install fence around hot spots	February 23, 1984
Demand Letters sent to PRPs	November 2, 1984
FS released for public comment	May 21, 1985
Addendum to RI Report Issued	May 31, 1985
Initial Remedy Delegation Report issued	March 8, 1985
Record of Decision issued	August 7, 1985
Remedial Design conducted	April 1986 – September 1987
Notice to proceed with fund-financed Remedial Action issued	April 28, 1988
On-site mobilization of RA activities began	May 9, 1988
Final inspection of RA	August 18, 1989
RA work deemed completed	March 9, 1990
USACE accepted project as final from contractors	June 29, 1990
USEPA deemed RA successfully executed	July 17, 1990
USEPA approves Remedial Action Report from USACE	April 24, 1991
USEPA contractor performed O&M	August 1989 September 2000
First Five-Year Review completed	January 17, 1996
Temporary shutdown of groundwater system	September 15, 2000 – January 11, 2001
Consent Decree lodged with Court for PRPs to take over O&M	September 14, 2001
Consent Decree entered with Court	March 27, 2002
Second Five-Year Review completed	September 28, 2001

III. BACKGROUND

Physical Characteristics and Land/Resource Use

The Old Mill Site is located in the Village of Rock Creek in Ashtabula County, Ohio (See Figure 1). The site consists of two parcels of land, the Henfield property and the Kraus property. The Henfield property is approximately 3 acres in size. Five dilapidated wooden buildings and four concrete silos were located on the property. The Henfield property was the former location of a feed mill and later a potting soil operation. Surface water flow from the property drains to the southwest corner and then to a ditch which discharges to the Rock Creek. The Kraus property is approximately 10 acres in size. This area was partially covered with piles of railroad ballast. Surface water flow from the Kraus property drains toward the northwest to a ditch which discharges to Badger Run and the Grand River. Land use in the vicinity of the site is represented by a mixture of residential, agricultural, and commercial/industrial developments. The site is in a rural village setting with the closest residences approximately 75 feet from the property boundary. All homes in the area of the Site are connected to a public water supply, with the exception of one residence that is located cross/upgradient of the Site.

History of Contamination

Response activity at the Old Mill site began in 1979 when U.S. EPA and Ohio EPA found approximately 1,200 drums of toxic waste, including solvents, oils, resins, and polychlorinated biphenyl (PCBs), stored on both the Henfield and Kraus properties. The Henfield property was considered to be an immediate hazard because a significant quantity of the drummed waste was flammable, many of the drums were in poor condition, and had leaked their contents into the soil. Access to the site was not controlled.

Initial Response

Superfund emergency removal activities and enforcement action resulted in drum removal that began in November 1981 and was completed in October 1982. In addition, approximately 2 inches of soil from the drum storage areas on the Henfield property were removed in November 1982. A six foot cyclone fence was installed around a portion of the Henfield property in April 1984 under the authority of Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), in order to minimize the potential for direct contact with the remaining soil contaminants.

On December 30, 1982, the USEPA proposed the Site for inclusion on the National Priorities List (NPL) [Federal Register, Vol. 47, No. 251, Page 58484]. On September 8, 1983, the Site was finalized on the NPL (Federal Register, Vol. 48, No. 175, Page 40673).

Basis for Taking Action

RI Activities

During the RI phase of activities at the Site, the nature and extent of contamination at the Old Mill Site was investigated through source characterization and sampling and analysis of potentially affected media. The RI was conducted between August 1983 and December 1984. In September 1983, Notice Letters were sent to approximately 30 PRPs giving notice of the Remedial Investigation/Feasibility Study (RI/FS) and requested information regarding waste handling practices at the Site. The activities performed during the RI included installation of groundwater monitoring wells, and collection, analysis, and evaluation of private well water samples, soil and sediment samples, surface water and groundwater samples, railroad bed samples, and railroad ballast samples. In addition, geophysical studies were conducted, and topographic maps were prepared for both the Henfield and Kraus properties.

Potential risks from contaminated soil and groundwater on the site are based on the assumption that the site would be used in the future for both residential and industrial/commercial development.

Review of all available information indicated that soils on the Henfield and Kraus properties were found to be contaminated with trichloroethene (TCE), dichloroethene (DCE), and 1,1-DCE, vinyl chloride, 1,1,1-trichloroethane, ethylbenzene, and xylene; with TCE as the principal organic contaminant. Soils were also contaminated with heavy metals, such as lead. Groundwater was found to be contaminated with TCE and other organic chemicals.

IV. REMEDIAL ACTION

Remedy Selection

On August 7, 1985, U.S. EPA signed the Record of Decision (ROD) for the Site selecting a final remedy. The major components of the selected remedy discussed in the ROD were:

- ▶ Removal and off-site disposal of impacted soil;
- ▶ Collection and on-site treatment of impacted groundwater until 10E-5 risk levels were attained;
- ▶ Aquifer use restrictions imposed by the state of Ohio for as long as concentrations in the plume are above 10E-6 carcinogenic risk levels (i.e. a restriction on contaminated groundwater use); and
- ▶ Public water supply to those residences potentially affected by contaminated groundwater

Remedy Implementation

After the ROD was signed, U.S. EPA contracted out the Remedial Design (RD), with RD oversight performed by the U.S. Army Corps of Engineers (USACE). The RD was completed on September 16, 1987. The Remedial Action (RA) was fund-financed by the U.S. EPA, with the Ohio EPA contributing its 10% cost share under terms of a State-Superfund Contract. The USACE also conducted oversight of the implementation of the RA. Construction of the remedy was completed in August 1989 and operation and maintenance (O&M) of the groundwater collection trenches and extraction wells were installed at various times during 1992 to 1994 to augment the system. Figure 2 presents the layout of the Site.

Institutional Controls

Institutional controls (ICs) are non-engineered instruments such as administrative and legal controls that help to minimize the potential for exposure to contamination and protect the integrity of the remedy. Institutional controls are required to assure long-term protectiveness for any areas which do not allow for unlimited use or unrestricted exposure (UU/UE).

The ROD called for collection and treatment of impacted groundwater until $10E-5$ risk levels were attained. Allowable residual contaminants (ARCs) criteria for groundwater were set forth in the ROD. Maximum Contaminant Levels (MCLs) were more recently prescribed as the clean-up targets for the groundwater at the Site for those constituents with established MCLs. Since the contaminated soils were removed as part of the remedy, only the groundwater treatment plant is fenced. Therefore, only groundwater ICs need to be implemented on the Site property and for off-Site areas, co-extensive with the groundwater plume.

To ensure long-term protectiveness of the remedy, U.S. EPA will create an IC Plan which will include steps necessary to ensure that effective ICs are implemented and maintained. As part of the plan, U.S. EPA will request that the PRPs undertake an IC Study to ensure that effective ICs have been implemented for groundwater. Also, U.S. EPA will request assurances for long-term stewardship including regular inspections of the Site and an annual certification to EPA that ICs are effective and that IC maps be completed. The IC maps will be made available on U.S. EPA's Superfund Data Management System (SDMS) and will serve as an additional IC as an informational control.

The following table documents the currently restricted areas of the Site and the corresponding IC objectives:

Restricted Area (area that does not allow unlimited use or unrestricted exposure)	Institutional Control Objective
Area of the Site where contaminant concentrations in the groundwater plume are above 10E-6 carcinogenic risk levels	Aquifer use restrictions imposed by the State of Ohio until cleanup goals are achieved

All homes in the area of the Site are connected to the public water supply with the exception of one residence that is located cross/upgradient. This will be confirmed as part of the IC study. In December 2004, the State of Ohio passed its version of the Uniform Environmental Covenants Act (UECA), which had the potential to simplify institutional controls implementation at the Site. As part of the IC study, U.S. EPA will (a) explore the feasibility of implementing covenants under the UECA for as many off-site parcels as possible; (b) for the parcels owned by parties other than the PRPs, U.S. EPA will ascertain if the PRPs have an obligation to use "best efforts" to persuade them to enter into a UECA covenant. U.S. EPA will also consider sending the current owners a letter that places them on actual notice of the Consent Decree restrictions; (c) make immediate contact with current owners to make sure that no further transfers of land owned go forward without the appropriate restrictions; (d) the PRPs will be asked to provide a title commitment for the Site parcels; and (e) the potential viability of the State aquifer use restriction as a governmental control will be investigated.

U.S. EPA will ascertain whether institutional controls were incorporated into the deed. Proprietary restrictions, such as UECA covenants may be sought. In addition, the ICs may need to incorporate a provision allowing the parcel owner to petition U.S. EPA to remove groundwater use restrictions once the performance standards set forth in the ROD have been fully implemented.

System Operation/Operation and Maintenance

The U.S. EPA conducted O&M activities at the Site from August 1989 until September 2000. Per an agreement with the U.S. EPA, the State of Ohio assumed O&M responsibilities for the Site in January 2001, and operated the Site until April 29, 2002. The PRP Group assumed the O&M responsibilities as set forth in a Statement of Work (SOW) approved by the U.S. EPA and Ohio EPA on July 28, 1999 and subsequently modified, to the verbal agreement of all parties, in November 1999 and again in December 1999. Due to changes in the schedule for transfer of Site responsibility to the PRPs, the SOW was again revised in June 2001. The PRPs assumed the O&M responsibilities on April 29, 2002, pursuant to terms of a Consent Decree entered on March 27, 2002.

The approved Work Plan for Long-Term Operation and Maintenance at the Site provides a description of the activities required to operate and maintain the groundwater

extraction and treatment system at the Site to ensure its effectiveness at containing and remediating affected groundwater. In addition, the potential applicability of Monitored Natural Attenuation (MNA) to the Site is being evaluated, as specified in the Work Plan and SOW. The focus of this Five-Year Review will evaluate the overall site, with emphasis focusing on the transition of O&M responsibilities from the Agencies to the PRP Group.

In general, activities performed by the PRP Group at the Site in 2002 consisted of the following:

- ▶ Prepared the Site for assumption of operations by checking equipment and repairing/refurbishing, as necessary;
- ▶ Performed routine operation and maintenance of the Site;
- ▶ Installed five additional monitoring wells. Two of the new wells (RWSH-5 and RWDH-5) were installed on the Henfield parcel to supplement monitoring of the shallow and deeper aquifers in the areas south of the groundwater collection trench associated with the Martin Sump. Two new wells (RWSK-11 and RWSK-12) were installed on the Kraus parcel to supplement monitoring of the shallow aquifer downgradient of and side-gradient to the groundwater collection trench associated with the Kraus Additional Sump. The fifth new well (RWSK-13) was installed on the Kraus parcel to the north-northeast of the Kraus Sump to better define the limit of the groundwater plume in this area of the Site;
- ▶ Abandoned eight unused existing monitoring wells (five wells on the Henfield parcel and three wells on the Kraus parcel). These wells were abandoned in general accordance with the *State of Ohio Technical Guidance for Sealing Unused Wells* (State Coordinating Committee on Ground Water, 1996);
- ▶ Conducted a baseline groundwater monitoring event of selected monitoring wells, piezometers, extraction wells, collection trench sumps, and groundwater treatment system influent/effluent at the Site for chemical analyses;
- ▶ Conducted quarterly monitoring events of measuring water levels from the selected monitoring wells and piezometers, and quarterly sampling of the treatment plant influent and effluent; and
- ▶ Initiated evaluation of the applicability of monitored natural attenuation (MNA) to the Site, including sampling select monitoring wells for specific bioparameters.

Activities performed by the PRP Group at the Site in 2003 consisted of the following:

- ▶ Performed routine O&M of the Site;
- ▶ Conducted the first annual groundwater monitoring event associated with the Long-Term Monitoring Plan (LTMP); and
- ▶ Conducted quarterly groundwater monitoring events and sampling/analysis of the treatment plant influent and effluent.

Activities performed by the PRP Group at the Site in 2004 consisted of the following:

- ▶ Performed routine O&M of the Site;
- ▶ Conducted the second annual groundwater monitoring event associated with the LTMP;
- ▶ Conducted quarterly groundwater monitoring events and sampling/analysis of the treatment plant influent and effluent; and
- ▶ Installed and developed two additional shallow monitoring wells on the Henfield parcel to assist in the continued evaluation of the applicability of MNA at the Site.

In addition to assuming O&M responsibilities at the Site and initiating the required compliance monitoring, the PRP Group began an evaluation for MNA at the Site. This evaluation was summarized in an October 31, 2003 Technical Memorandum. The purpose of the evaluation was to assess the hydro geological and hydro geochemical conditions at the Site to determine if existing conditions are favorable for biodegradation. The PRP Group has submitted an addendum to the existing LTMP which describes the MNA Pilot Study planned for the Site. This pilot study will further evaluate whether MNA, or enhanced MNA, is a viable alternative to the existing groundwater remediation system that has been operating at the Site since 1989.

Operation and Maintenance Cost

The estimated costs for annual Operation and Maintenance were estimated in the 1985 ROD to be \$45,000 per year. The estimated O&M costs for the Site during the years of this review are:

Year	Estimated Cost
2002	\$186,108
2003	\$128,015
2004	\$141,247
2005	\$146,206
2006	\$177,500 (projected)

These costs do not include the U.S. EPA and Ohio EPA oversight billings or the PRP internal administrative costs.

Progress Since Last Five-Year Review

Since the last five-year review, the Site continued to operate in accordance with the provisions of the ROD. The protectiveness statement indicated that the remedy:

- ▶ Continued to operate effectively and was protective of human health and the environment; and
- ▶ Long-term protectiveness of the remedial action will be verified by continued monitoring at the site.

The recommendations cited in the last five-year review stated that the operation of the groundwater extraction and treatment system continue and that monitoring of the groundwater should continue to evaluate data trends.

V. FIVE YEAR REVIEW PROCESS

Administrative Components

The Five Year Review was authored by Linda Kern of the U.S. EPA, with the assistance of Andrew Kocher of the Ohio EPA. Members of the Five-Year Review team included Nola Hicks and Susan Pastor of the U.S. EPA. The review consisted of a Site inspection and review and analysis of relevant documents. The completed report will be available in the Site information repository located at the Rock Creek Public Library, 2988 High Street, Rock Creek, Ohio.

Community Involvement

The public was notified of the Five-Year Review on May 22, 2006 by placement of public notice in the Ashtabula Star Beacon. A copy of the notice is included in Appendix A. No outstanding Environmental Justice Initiative issues were identified for this Site during this review.

Document/Data Review

The following documents were reviewed during the five-year review process: RI/FS; ROD; Final Inspection Report; Long-Term Operation and Maintenance Manual; Monthly Progress Reports; the PRPs' First, Second, and Third Performance Evaluation Reports, Monitored Natural Attenuation Evaluation Reports; and various correspondence.

Potentiometric surface maps of the shallow groundwater for the Henfield Parcel indicate that the general direction of groundwater flow in the shallow zone is toward the west. This flow pattern is consistent with historical trends. Potentiometric maps of the shallow groundwater for the Kraus Parcel indicate that the general direction of groundwater flow in the shallow zone is towards the northwest. This flow pattern is consistent with historical trends.

The analytical results for the groundwater samples collected from monitoring wells, piezometers, sumps, extraction wells, and groundwater treatment plant influent and effluent sampling ports were reviewed. Based upon a review of this information, it can

be seen that the groundwater collection system is successfully capturing groundwater with concentrations above the MCLs on both the Henfield and Kraus properties. VOCs were detected in the treatment plant influent samples, but not the effluent samples, thus indicating that the treatment plant is effective at removing VOCs from the combined groundwater, meeting the established discharge criteria.

It should be noted that TCE was identified in RWSH-4 during the May 2004 sampling event with a concentration of 10.1 mg/l. Because RWSH-4 is a down gradient well, and the detected concentrations exceeded the 5.0 mg/l MCL, this well was resampled twice in 2005. Results indicated no VOC detection during either of these sampling events. TCE was previously detected in RWSH-4 during the 2002 and 2003 sampling events, albeit at concentrations below MCLs. This monitoring well is only 50 feet from the southeastern property line on the Henfield property. Given its location with respect to the known boundary of the existing plume, this area should receive careful observation in the future. If monitoring well RWSH-4 continues to show evidence of plume migration to the west, an additional monitoring well will be required further down gradient. In addition, the groundwater remediation system will need to be reviewed to assure that contaminants do not migrate off-site.

Historical water quality data for three select VOCs are presented in Table 1. The VOCs evaluated for the trend analysis were TCE, PCE, and 1,1,1-TCA. The historical data includes data collected by U.S. EPA contractors from 1991 through 2000, and sampling events conducted by the PRP Group from 2002 through 2004. (No groundwater samples were collected in 2001.) The trend analysis graphs for TCE, PCE, and 1,1,1-TCA are presented in Figures 3, 4, and 5, respectively. Groundwater potentiometric surface (i.e., flow) maps for the shallow water-bearing zones for each of the latest four quarterly monitoring events are presented in Figures 6 through 9. A total VOCs plume map for the shallow groundwater beneath the Henfield and Kraus properties, based on the data from the shallow monitoring wells and sumps is presented in Figure 10. Additional data will be presented in the Fourth Annual Performance Evaluation Report, which is expected to be submitted to the Agencies in October 2007.

Historically, phthalates have been sporadically detected at the Site. To confirm whether phthalates are potential contaminants of concern, samples are analyzed for phthalates during each groundwater sampling event at the site. The only phthalate detected during this review period (2002 through 2004) was during the 2002 sampling event. In one deep monitoring well, RWDH-5, bis(2-ethylhexyl)phthalate was detected with a concentration of 4 µL. Because this is a new monitoring well, historical groundwater quality data from this well are not available. Results of the 2005 sampling are expected in October 2007. An evaluation will be made whether the low-level detection of this single phthalate is representative of groundwater conditions and if modifications should be made to the list of target compounds being analyzed at the site.

Institutional Control Investigation/Study

An Institutional Control (IC) investigation/study will be conducted to determine which ICs, or mix of ICs, will be most effective at the Old Mill Site. The IC study will be completed within in the next six months.

Site Inspections

The site currently has a two-person maintenance crew that visits the site every Thursday for routine maintenance of the remedy components. Any problems encountered and corrective actions taken concerning minor maintenance are reported to the Agencies in monthly progress reports for the Site. The most recent Agency site inspection was conducted on August 17, 2006 by Andrew Kocher of the Ohio EPA. A copy of the Periodic Compliance Inspection Form and copies of Site photographs documenting the current Site conditions can be found in Appendix B. Minor corrective actions including the repair on concrete pads on some monitoring wells, repair of P-8, filling in of a hole, and the posting of updated 8 hour refresher documents for the on-site operators were noted. These recommendations do not effect the performance or protectiveness of the remedy.

VI. TECHNICAL ASSESSMENT

Question A: Is the remedy functioning as intended by the decision documents?

Yes. Nothing observed at the Site would be considered an imminent threat to the integrity of the remedy in place. It can be seen that the groundwater collection system is successfully capturing groundwater with concentrations above the MCLs on both the Henfield and Kraus properties. VOCs were detected in the treatment plant influent samples, but not the effluent samples, thus indicating that the treatment plant is effective at removing VOCs from the combined groundwater, meeting the established discharge criteria. A review of the institutional controls, which includes the aquifer use restrictions, will be completed to determine if the remedy is functioning as intended with regard to the ICs.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objects (RAOS) used at the time of the remedy selection still valid?

Yes. There have been no changes in conditions at the Site that would affect the protectiveness of the remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No. There is no other information that calls into question the protectiveness of the existing remedy. However, further pilot testing of MNA and/or enhanced MNA at the Site will continue to be evaluated at the Site.

Technical Assessment Summary

According to documentation reviewed and Site inspections, the remedy is functioning as designed. There have been no changes in conditions at the site that would affect the protectiveness of the remedy. As a precaution, the enforceability of the ICs should be evaluated. There is no other information at this time that calls into question the protectiveness of the remedy.

VII. ISSUES

Issue	Currently Affects Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
1) Analysis of the aquifer use restrictions in place at the site is required and an Institutional Control Study and Plan should be completed	N	Y
2) Assure long-term stewardship of the Site	N	Y
3) Possible plume migration to the west, noted by TCE levels, above MCLs, in monitoring well RWSH-4 during 2004 sampling event	N	Y
4) Evaluate possible revision to target compound list	N	Y

VIII. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

Recommendations/ Follow-up Actions	Responsible Party	Oversight	Milestone	Affects Protectiveness (Y/N) Current/ Future
1) Complete IC study*	PRPs	U.S. and Ohio EPA	March 2007	Current – No Future - Yes
2) Complete IC plan	U.S. and Ohio EPA	U.S. and Ohio EPA	March 2007	Current – No Future - Yes
3) Continue to monitor RWSH-4 for possible plume migration. If migration is evident an additional monitoring well should be required further downgradient of this location	PRPs	U.S. and Ohio EPA	June 2007	Current – No Future - Yes
4) Submit 2005 analytical data to assist in the determination whether to modify target compound list for the site	PRPs	U.S. and Ohio EPA	October 2007	Current – No Future - Yes

*To: 1) Evaluate the existing ICs to determine effectiveness and enforceability; 2) Update site ICs, if needed, to ensure that the ICs are properly recorded to give notice to future landowners for information relevant to land use restrictions and are enforceable; 3) Prepare accurate maps of all areas that require land and groundwater restrictions; and 4) Provide revision to the O&M plan to include mechanisms to ensure regular inspections of ICs at the site, an annual certification to U.S. EPA that ICs are in place and effective, and a communication plan.

IX. PROTECTIVENESS STATEMENT

The review indicates that the remedy is effective and the remedy is protective of human health and the environment in the short term. Institutional controls required by the ROD will be evaluated to assess their protectiveness in the long term. Long-term protectiveness will be ensured by implementing, maintaining and monitoring effective ICs as well as maintaining the remedy components. To ensure long-term protectiveness of the remedy, an Institutional Control Plan will be implemented at the Site.

X. NEXT REVIEW

The next five-year review will be completed by September 2011, which is five years from the date of this report.

TABLE 1

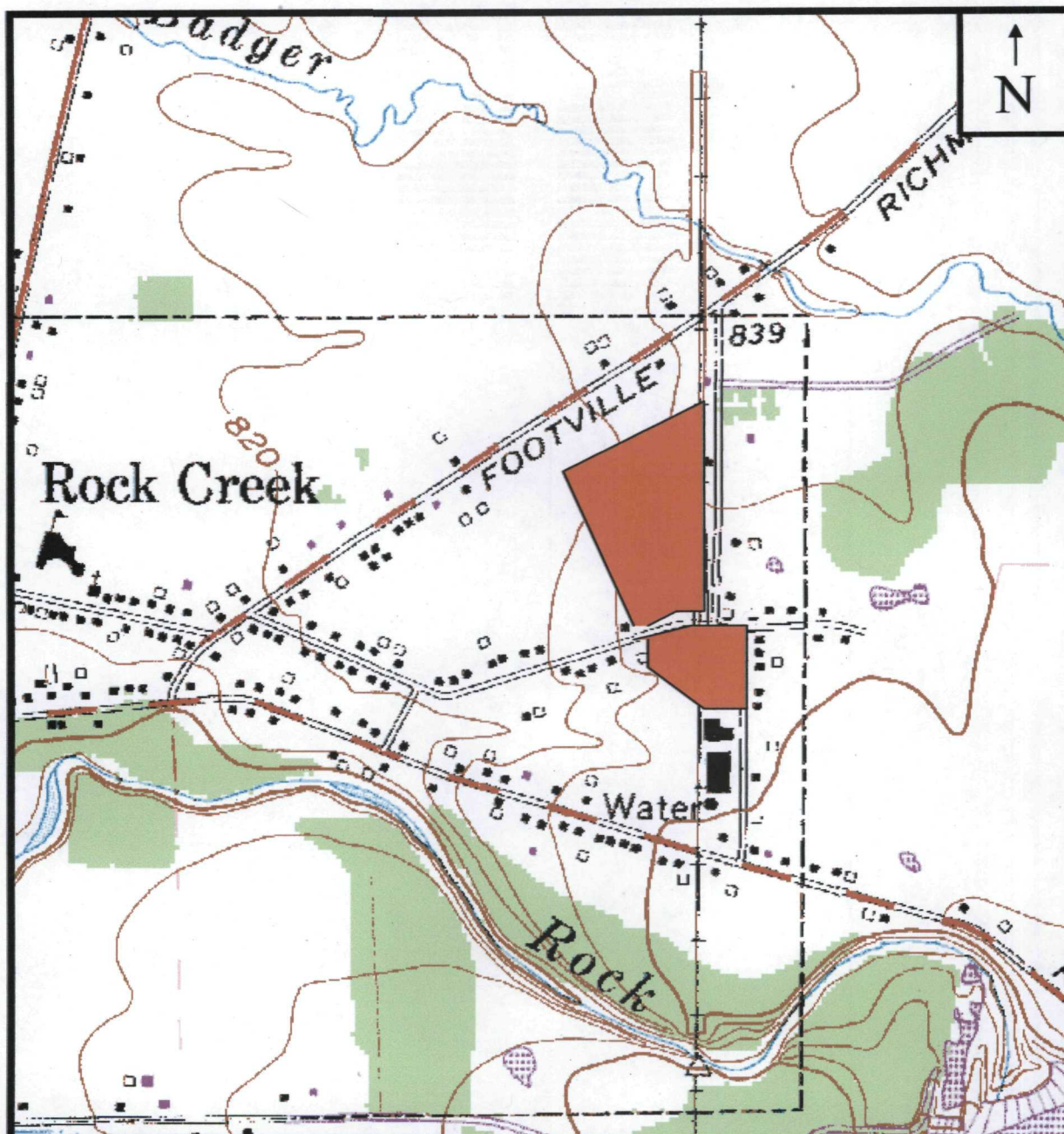
TABLE 1
HISTORICAL DATA FOR SELECT VOCs AND SAMPLE POINTS

TRICHLOROETHENE																					
	Oct-91	Sep-92	Sep-93	Sep-94	Sep-95	Sep-96	Sep-97	Sep-98	Jan-00	Jul-02	Oct-02	Jan-03	Apr-03	May-03	Jul-03	Oct-03	Jan-04	Apr-04	May-04	Jul-04	Oct-04
Henfield Sump	3900	3500	4700	2400	1600	1000	1700	2300	254	4010	-	-	-	3000	-	-	-	-	309	-	-
Monitoring Well RWSK-5	-	250	520	780	810	260	340	230	313	316	-	-	-	16.6	-	-	-	-	189	-	-
Kraus Modified Sump	2500	2400	3100	2700	1800	2100	1400	1900	801	774	-	-	-	880	-	-	-	-	82.7	-	-
Treatment Plant Influent	1900	1500	4900	790	1100	740	1700	740	270	1330	32	392	460	1300	354	133	467	314	-	355	787
TETRACHLOROETHENE																					
	Oct-91	Sep-92	Sep-93	Sep-94	Sep-95	Sep-96	Sep-97	Sep-98	Jan-00	Jul-02	Oct-02	Jan-03	Apr-03	May-03	Jul-03	Oct-03	Jan-04	Apr-04	May-04	Jul-04	Oct-04
Henfield Sump	180	140	190	110	120	62	93	140	8.53	149	-	-	-	140	-	-	-	-	51.2	-	-
Monitoring Well RWSK-5	-	0	0	1	0	0	0	0	0.46	0	-	-	-	0	-	-	-	-	0	-	-
Kraus Modified Sump	86	100	67	75	69	72	53	56	26.2	22.9	-	-	-	31	-	-	-	-	0	-	-
Treatment Plant Influent	33	90	160	32	37	26	53	35	6.1	57.8	1.3	13.3	28.3	55	16.3	6.43	24.0	11.9	-	13.2	42.5
1,1,1-TRICHLOROETHANE																					
	Oct-91	Sep-92	Sep-93	Sep-94	Sep-95	Sep-96	Sep-97	Sep-98	Jan-00	Jul-02	Oct-02	Jan-03	Apr-03	May-03	Jul-03	Oct-03	Jan-04	Apr-04	May-04	Jul-04	Oct-04
Henfield Sump	46	49	49	32	37	16	19	28	0	0	-	-	-	0	-	-	-	-	0	-	-
Monitoring Well RWSK-5	-	2	3	5	4	1	3	2	0	0	-	-	-	0	-	-	-	-	0	-	-
Kraus Modified Sump	20	31	14	12	7	11	5	7	0	0	-	-	-	0	-	-	-	-	0	-	-
Treatment Plant Influent	48	22	50	9	11	9	50	22	0	0	0	0	4.55	0	0	0	0	0	-	0	3.56

Notes:

- All values are expressed in units of parts per billion (ppb; µg/L).
- Cells with a "-" indicates that the location was not sampled for that parameter.
- Cells with a "0" indicates that the parameter was not detected at or above the reporting limit.

FIGURES



LEGEND



Approximate boundary of site

OLD MILL SITE
ROCK CREEK, ASHTABULA COUNTY, OHIO

FIGURE 1: SITE LOCATION MAP

Ohio Environmental Protection Agency

SCALE : NOT TO SCALE

DRAWING NO. 18172-018 (CLEAK) DATE: 2/6/03 (PLOT SCALE 1"=60')

SOURCE: MODIFIED FROM BASE MAPS PREPARED BY WOODWARD-CLYDE CONSULTANTS

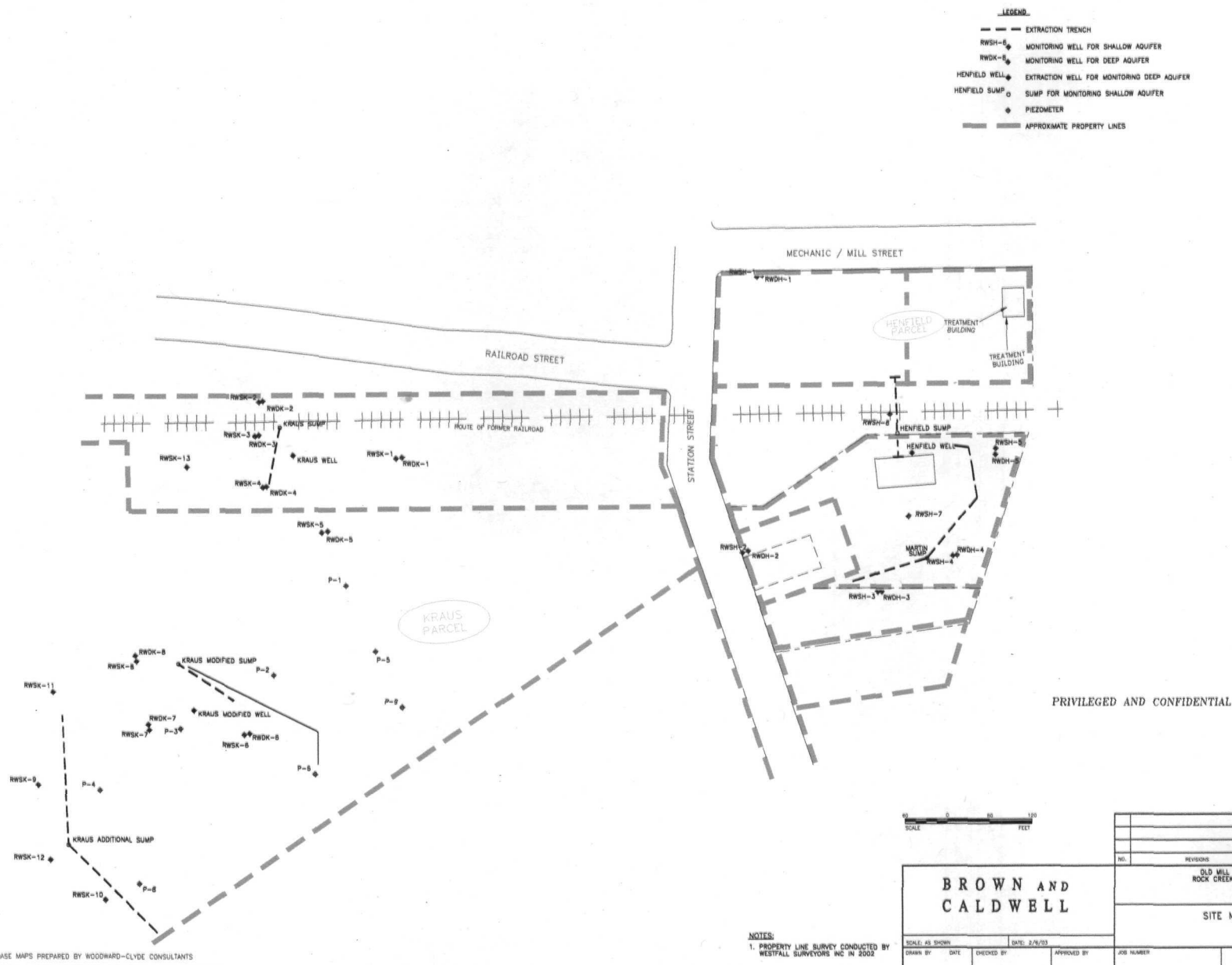


FIGURE 3
TRICHLOROETHENE TRENDS

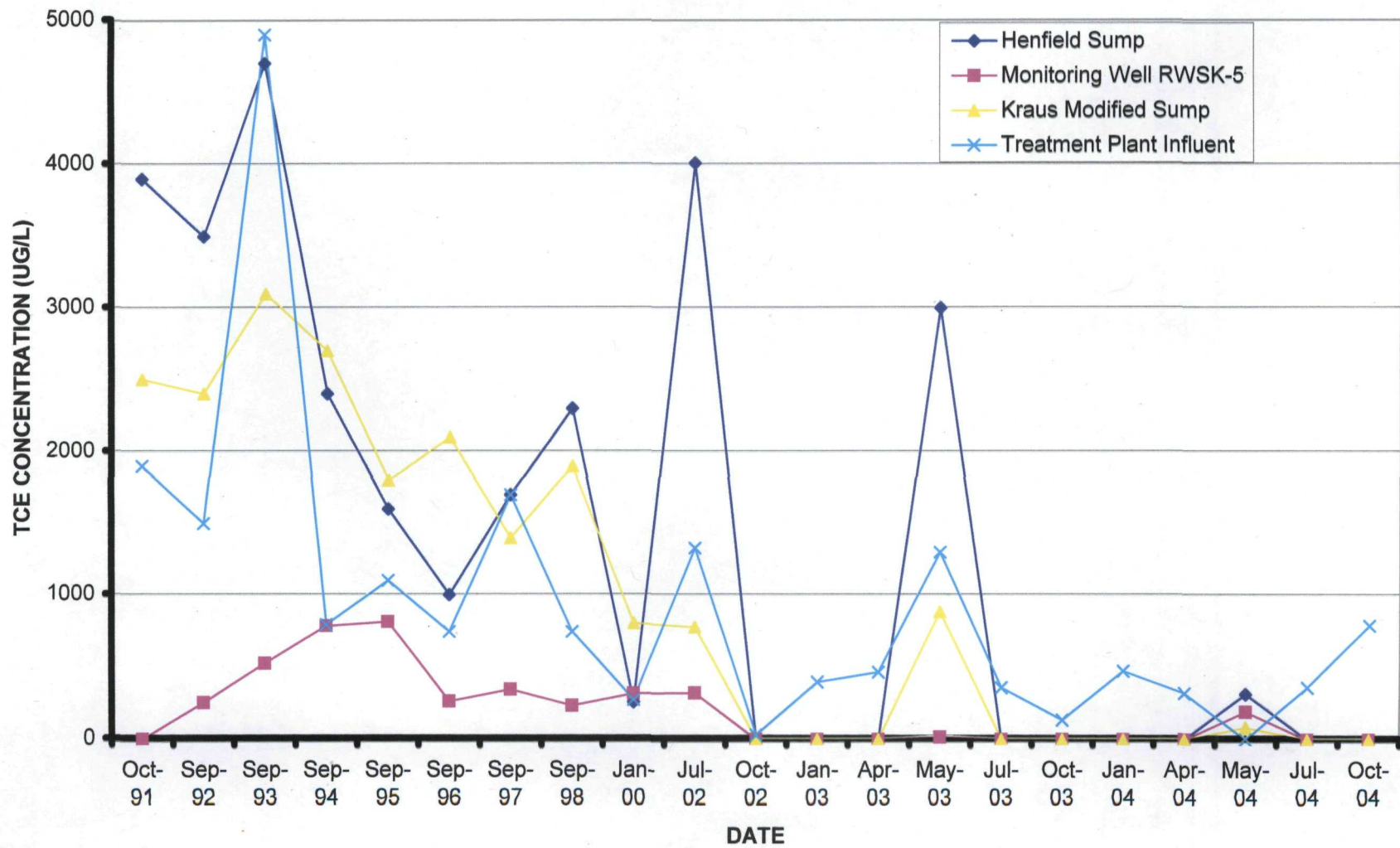


FIGURE 4
TETRACHLOROETHENE TRENDS

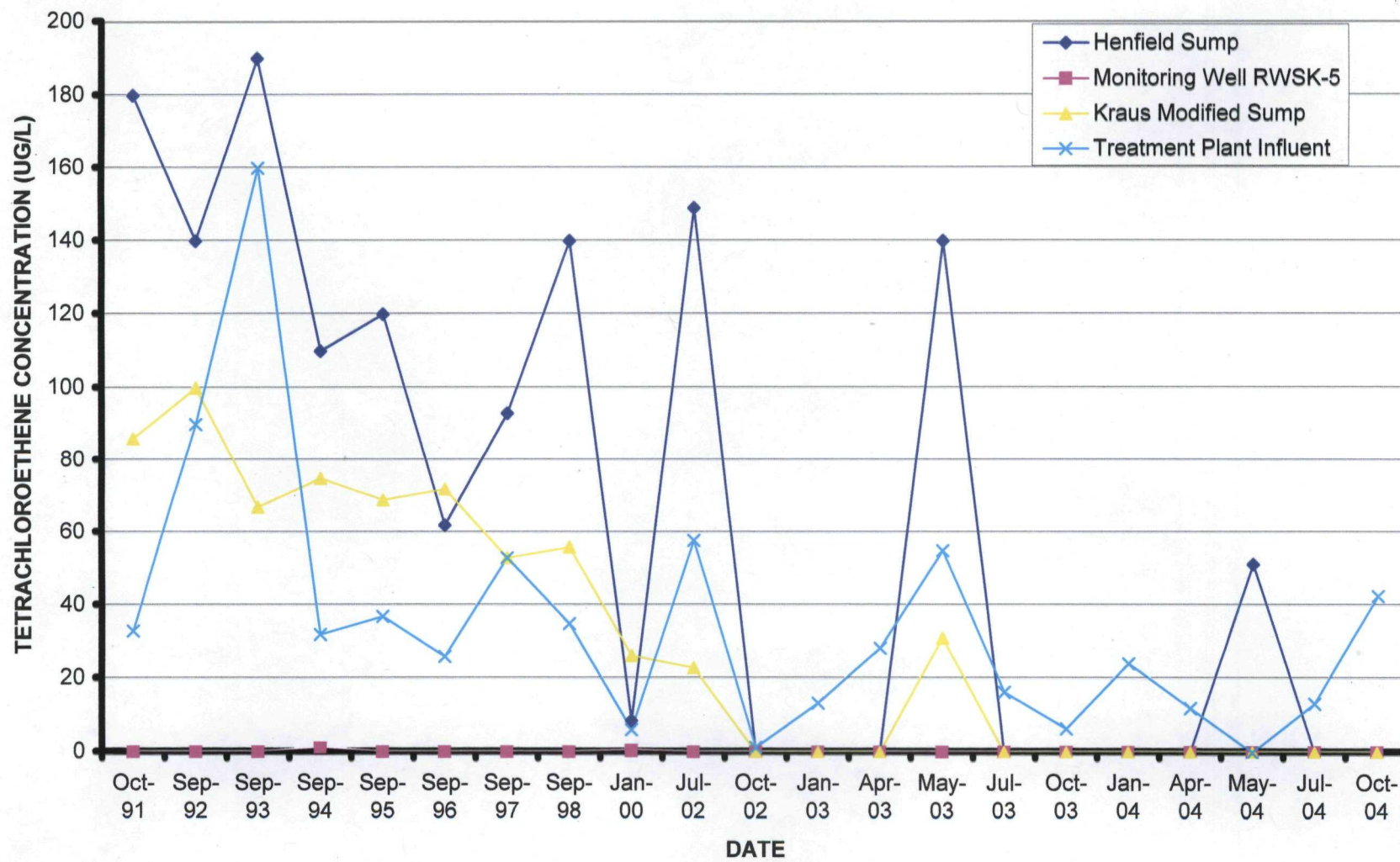
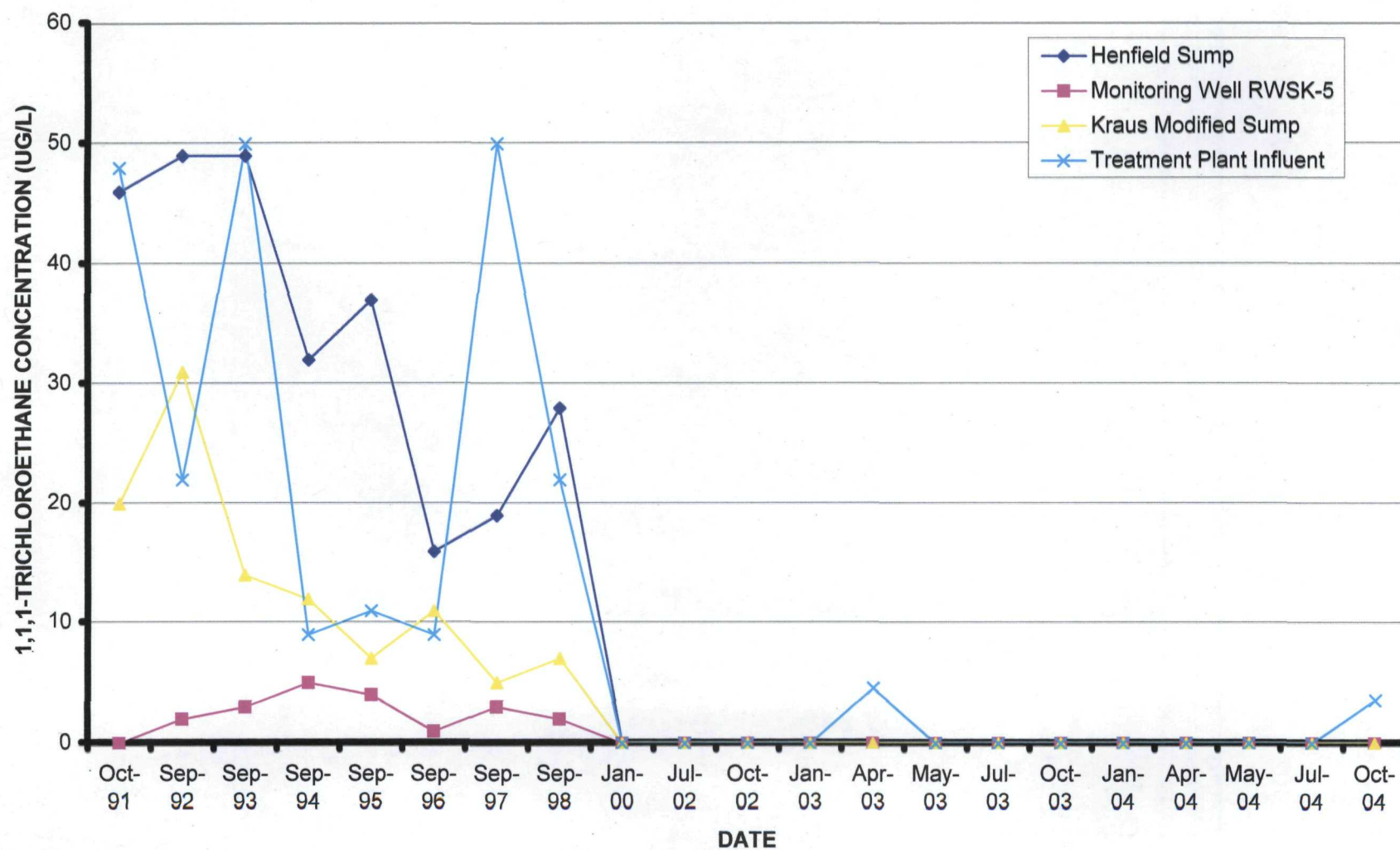
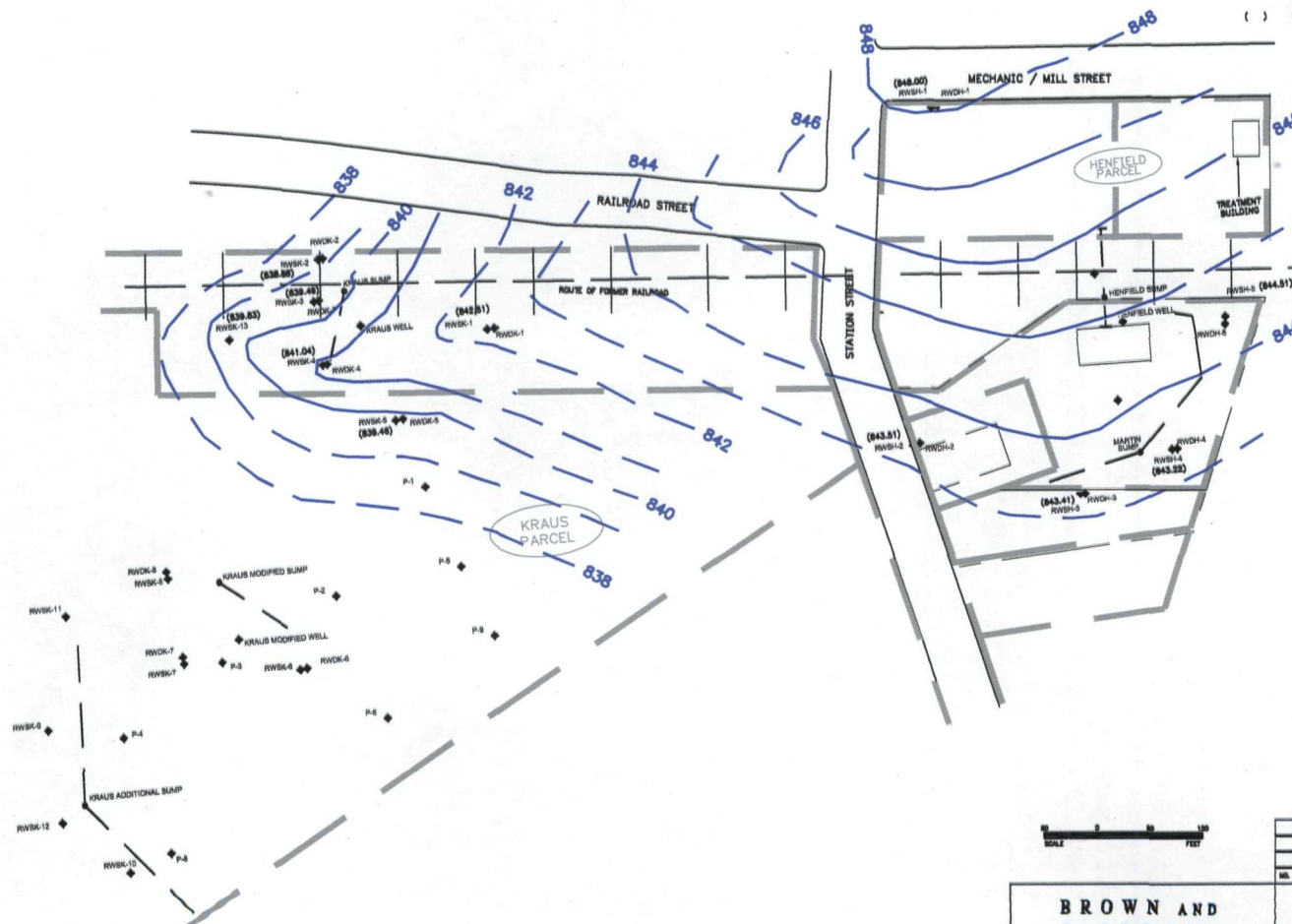


FIGURE 5
1,1,1-TRICHLOROETHANE TRENDS



DRAWING NO.: 18772-018 (CLND) DATE: 8/15/00 PLOT SCALE: 1"=40'

SOURCE: MODIFIED FROM BASE MAPS PREPARED BY WOODWARD-CLYDE CONSULTANTS



SCALE
0 50 100
FEET

**BROWN AND
CALDWELL**

NOTES

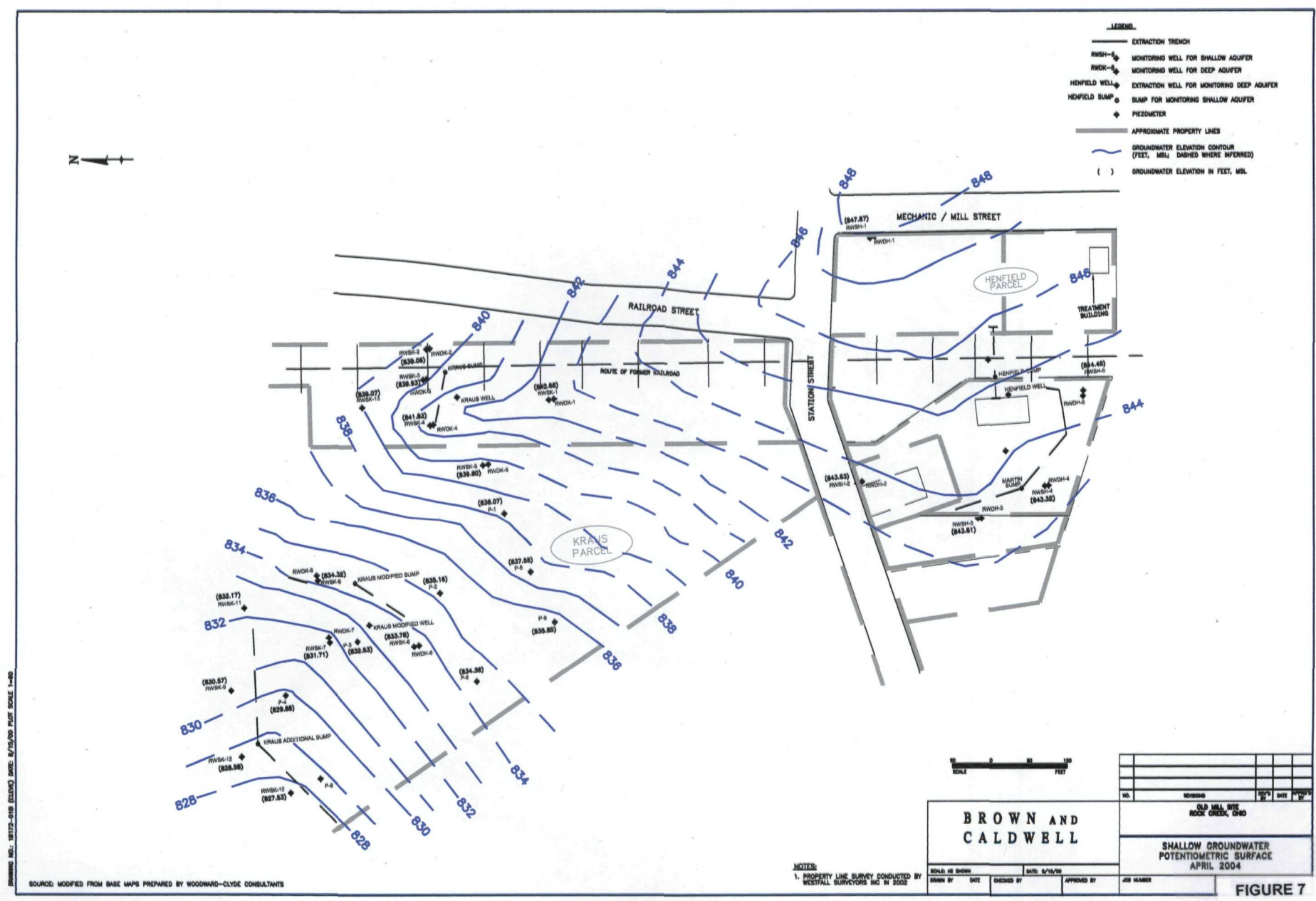
1. PROPERTY LINE SURVEY CONDUCTED BY WESTFALL SURVEYORS INC IN 2002

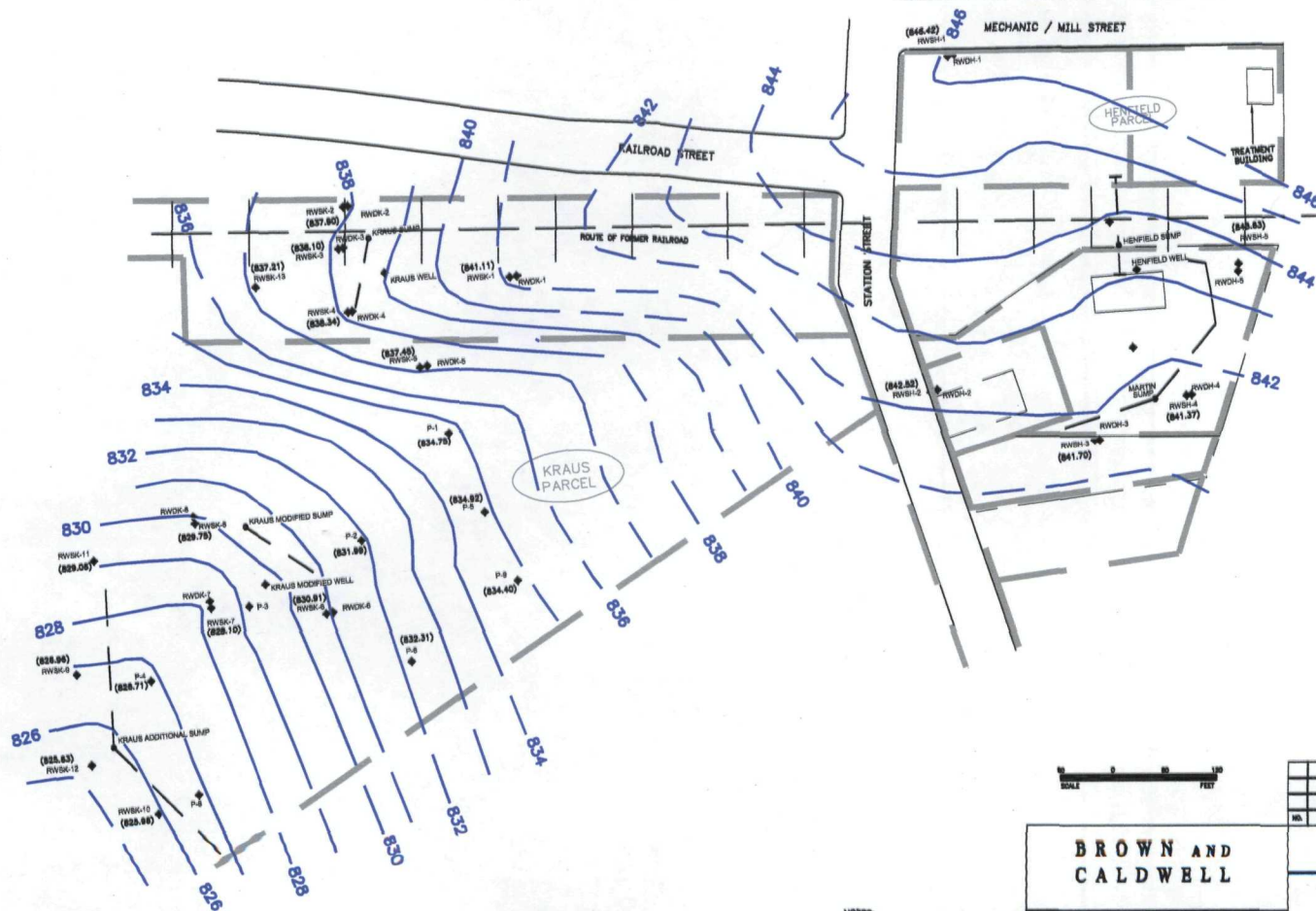
DATE: 8/15/00	APPROVED BY:
DRAWN BY:	CHECKED BY:

NO.	REVISION	DATE	BY

OLD MILL SITE ROCK CREEK, OHIO
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE JANUARY 2004

FIGURE 6





BRUNNEN NO. 19172-018 (CLINE) DATE 8/15/00 PLOT SCALE 1"=40'

SOURCE: MODIFIED FROM BASE MAPS PREPARED BY WOODWARD-CLYDE CONSULTANTS

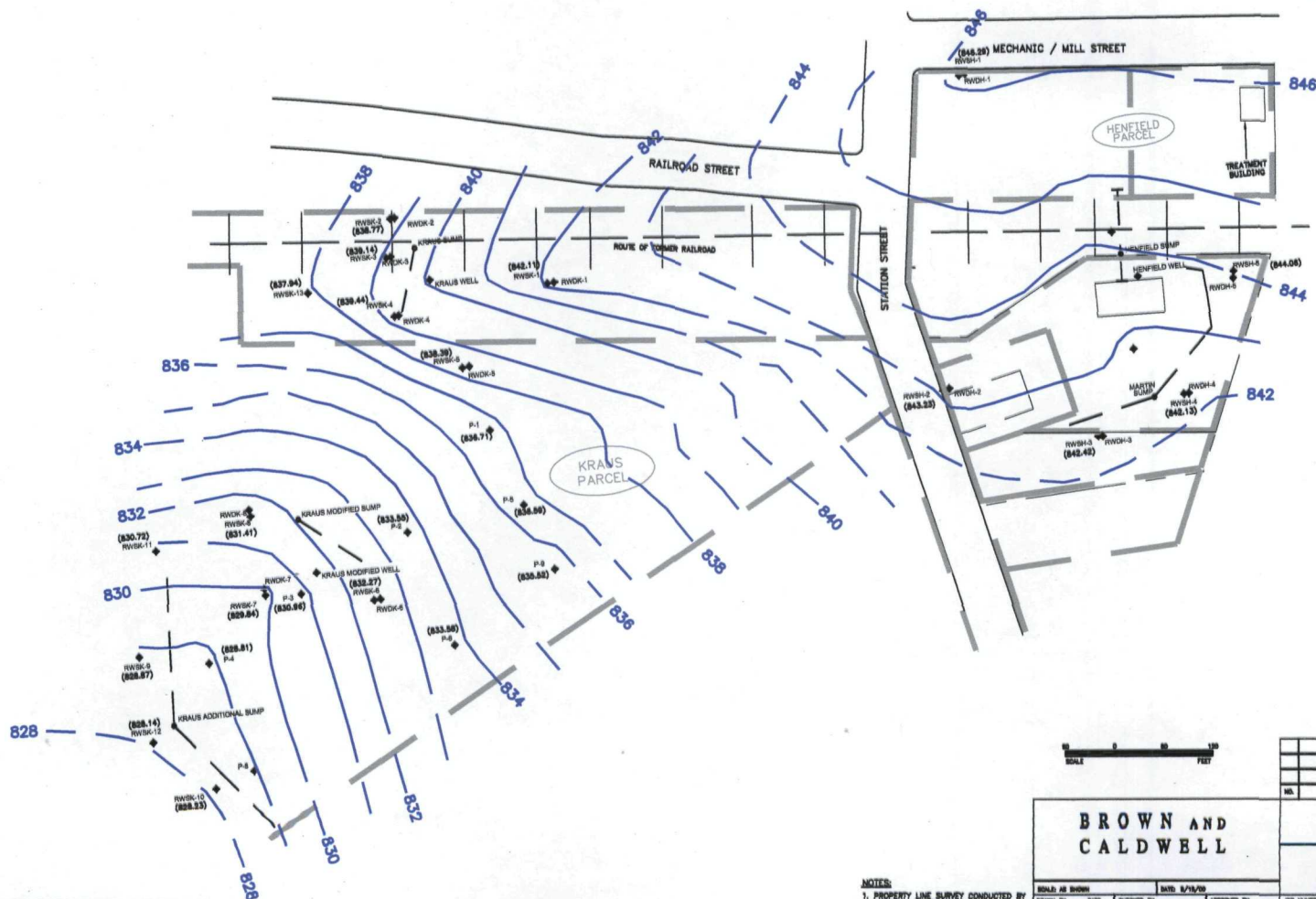
NOTES:
1. PROPERTY LINE SURVEY CONDUCTED BY WESTFALL SURVEYORS INC IN 2002

SCALE 0 20 40 FEET		OLD MILL SITE ROCK CREEK, OHIO	
BROWN AND CALDWELL		SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE JULY 2004	
DRAWN BY DATE	CHECKED BY DATE	APPROVED BY DATE	JOB NUMBER

FIGURE 8



- LEGEND**
- EXTRACTION TRENCH
 - RWSH-1 MONITORING WELL FOR SHALLOW AQUIFER
 - RWDK-1 MONITORING WELL FOR DEEP AQUIFER
 - HENFIELD WELL EXTRACTION WELL FOR MONITORING DEEP AQUIFER
 - HENFIELD SUMP SUMP FOR MONITORING SHALLOW AQUIFER
 - ◆ PIEZOMETER
 - APPROXIMATE PROPERTY LINES
 - GROUNDWATER ELEVATION CONTOUR (FEET, MSL; DASHED WHERE INFERRED)
 - () GROUNDWATER ELEVATION IN FEET, MSL



DRAWING NO. 18772-018 (ELEV) DATE 8/15/00 PLOT SCALE 1"=40'

SOURCE: MODIFIED FROM BASE MAPS PREPARED BY WOODWARD-CLYDE CONSULTANTS

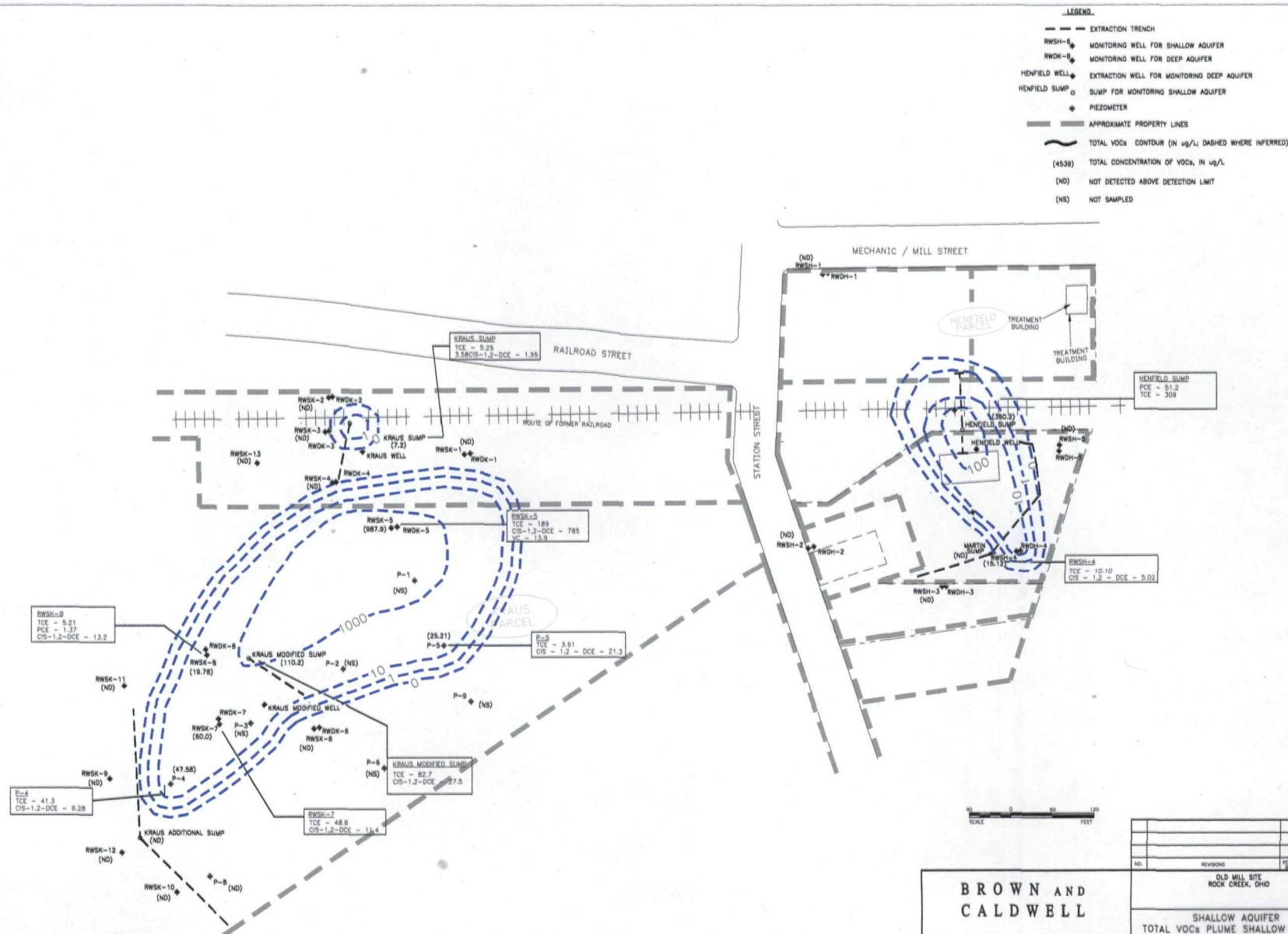
NOTES:
1. PROPERTY LINE SURVEY CONDUCTED BY WESTFALL SURVEYORS INC IN 2002

BROWN AND CALDWELL		SCALE 									
		OLD MILL SITE ROCK CREEK, OHIO									
SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE OCTOBER 2004		<table border="1"> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	REVISION	DATE	BY				
NO.	REVISION	DATE	BY								
DRAWN BY DATE	CHECKED BY DATE	APPROVED BY DATE	JOB NUMBER								

FIGURE 9

DRAWING NO.: 18172-018 (CLING) DATE: 2/9/03 PLOT SCALE: 1"=60'

SOURCE: MODIFIED FROM BASE MAPS PREPARED BY WOODWARD-CLYDE CONSULTANTS



NOTES:
1. PROPERTY LINE SURVEY CONDUCTED BY WESTFALL SURVEYORS INC IN 2002

BROWN AND CALDWELL

SCALE AS SHOWN
DRAWN BY: DATE: CHECKED BY: DATE: 2/9/03 APPROVED BY: JOB NUMBER:

NO.	REVISIONS	REV'D	DATE	APPROVED

OLD MILL SITE
ROCK CREEK, OHIO

SHALLOW AQUIFER
TOTAL VOCs PLUME SHALLOW AQUIFER
MAY 2004

FIGURE 10

APPENDIX A



EPA to Review Old Mill Superfund Site Rock Creek, Ohio

U.S. Environmental Protection Agency is conducting a status review of the Old Mill Superfund site. The Superfund law requires regular reviews of sites (at least every five years) where the cleanup is complete but hazardous waste remains managed on-site. These reviews are done to ensure that the cleanup continues to protect human health and the environment.

The review will include:

- An evaluation of background information
- Cleanup requirements
- Effectiveness of the cleanup; and
- Any anticipated future actions

EPA selected several actions for the site that included removing and disposing of contaminated soil off-site; demolishing buildings located on-site and disposing of the debris; pumping and treating contaminated ground water; implementing site controls and monitoring. The construction of the cleanup system was completed in 1990. Since that time, cleanup components have been in operation and monitored on a regular basis. This is the third five-year review for Old Mill. The previous reviews were completed in January 1996 and September 2001.

The five-year-review report, which will be available by October 2006, will detail the site's progress.

Further information can be obtained by contacting:

Susan Pastor
EPA Community Involvement Coordinator
(800) 621-8431 Ext. 31325, weekdays 10 a.m. – 5:30 p.m.
pastor.susan@epa.gov

Site-related documents are available for review at:

Rock Creek Public Library
2988 High Street

APPENDIX B

PERIODIC COMPLIANCE INSPECTION FORM**I. GENERAL INFORMATION**

Name of Inspector:	Andrew Kocher	Inspection Date:	8/17/06
Construction Completion Date:	09/30/1991	Date of Last Periodic Compliance Inspection:	N/A
Site Name:	Old Mill	Site ID	OHD0980510200 204-0609
Operable Unit(s):	None		
Site Address: (attach map)	Mill Road & Station Street Rock Creek, OH 44084	County	Ashtabula
Name and Address Current Property Owner(s):	Joanne Tressler (plant area) - Parcel# 35-032-00-003-00 William H. Kraus - Parcel# 35-018-00-030-00 Donald D. Janson (area north of plant) - Parcel# 35-032-00-004-00 Ohio Rail Transportation Authority (old railroad) - Parcel# 35-018-00-030-01 Mobile Martin Milling Co. (area west of plant) - Parcel# 35-031-00-011-00		
Name of Site Contact:	Mr. Michael L. Watkins, Project Manager Brown and Caldwell, LLC 7550 Lucerne Drive, Suite 310 Middleburg Heights, OH 44130-6502 Ms. Linda Kern (SR-6J) U.S. EPA, Region 5 77 West Jackson Blvd. Chicago, Illinois 60604	Telephone Number	(440)826-4900 (312)866-7341
Address:	See above		
Operators Name: (if applicable)	T. Clint & D. Kova - Lord Corporation	Telephone Number	N/A
Persons Present During Inspection include Affiliations:	T. Clint & D. Kova		

II. CHECKLIST

(Create a site specific checklist that includes all remedy components and any special requirements identified in the O&M plan.)

SITE SECURITY**Photo ID# ---**

Old Mill
Periodic Inspection Checklist - 2006

<p>Condition of Fences/Gates: Good</p> <p>Condition of Warning Signs: Good</p> <p>Evidence of Unauthorized Access: None (Plant Only)</p> <p>Are Institutional Controls Being Properly Implemented/Enforced: Yes</p> <p>ADDITIONAL COMMENTS: Aesthetics improved by removal of numerous large tanks.</p>	
GENERAL SITE CONDITIONS	Photo ID# ---
<p>Evidence of Subsidence of Cap: None</p> <p>Presence of Erosion Rills: None</p> <p>Vegetative Conditions: Good</p> <p>Condition of Drainage System: Good</p> <p>Evidence of Slope Instability: N/A</p> <p>ADDITIONAL COMMENTS: N/A</p>	
ENGINEERING CONTROLS	Photo ID# 1
<p>Treatment Collection System: Good</p> <p>Treatment System Conditions: Good</p> <p>Effluent System Conditions: Good</p> <p>Building Conditions: Good</p> <p>ADDITIONAL COMMENTS: N/A</p>	
GROUND WATER MONITORING NETWORK	Photo ID# 3,4,5,6
<p>Condition of Wells and Piezometers: Overall good, downgradient concrete well pad uplifted (evidence of animal living under pad), piezometer (P-8) is broken, sinkhole near P-8, RWDK-1 has broken up concrete pad.</p> <p>Condition of Well Identification Markers: None visible.</p> <p>Condition of Diversion Trenches/Barriers: Surface visibility very limited, assume good condition.</p> <p>ADDITIONAL COMMENTS: None</p>	
OFF-SITE INSPECTION	Photo ID# 2

Old Mill
Periodic Inspection Checklist - 2006

Changes in Property Usage: Small bike patrol shed near trail, most tanks have been removed.

Evidence of Nearby Contamination (e.g. leachate): None visible - a lot of vegetation, will recheck in Spring.

ADDITIONAL COMMENTS: Attempting to use portion of property above the plume to construct a parking lot.

ON-SITE DOCUMENTS AND RECORDS VERIFIED

O & M Manual: Yes, 2001

Safety Plan: Yes, 2001

Permits and Service Agreements: N/A

ADDITIONAL COMMENTS: 8-hr refresher documents out of date (11/10/04)

O&M MAINTENANCE SUMMARY

Maintenance Operator/s: T. Clint & D. Kova - Lord Corporation

Maintenance Logs: Yes

Activities Conducted Since Last Inspection:

- 1) Continued maintenance and operation of plant.
- 2) Many of the large tanks have been removed.
- 3) Bike patrol shed erected.
- 4)

ADDITIONAL COMMENTS: N/A

III. RECOMMENDATIONS:

- 1) Repair broken and uplifted concrete pads on the couple of monitoring wells.
- 2) Fill hole near P-8.
- 3) Repair P-8.
- 4) Post updated 8-hr refresher documents for on-site operator/s.

OLD MILL
SITE INSPECTION REPORT - 2006
ROCK CREEK, ASHTABULA COUNTY, OHIO



Photo No: 1 **Date:** 8/17/06
Photographer: A. Kocher **Direction:** West
Subject: A view of the main gate and
Groundwater Treatment Plant.

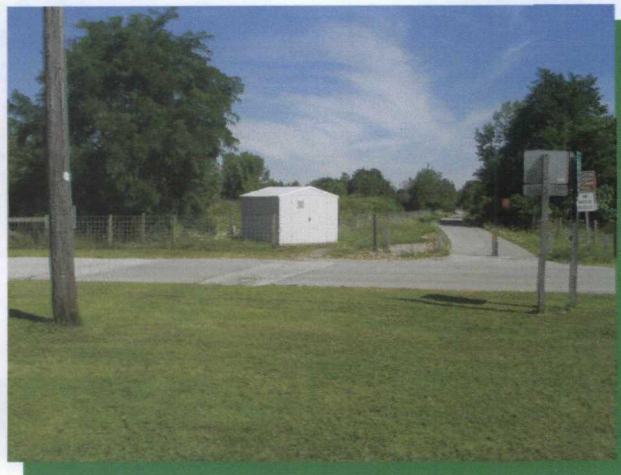


Photo No: 2 **Date:** 8/17/06
Photographer: A. Kocher **Direction:** North
Subject: A view of the "Rails to Trails" bike
path and future parking lot.



Photo No: 3 **Date:** 8/17/06
Photographer: A. Kocher **Direction:** N/A
Subject: A view of deteriorating concrete
monitoring well pads on the Kraus Parcel.



Photo No: 4 **Date:** 8/17/06
Photographer: A. Kocher **Direction:** N/A
Subject: A view of an uplifted concrete pad
with hole underneath on the Kraus Parcel.

OLD MILL
SITE INSPECTION REPORT - 2006
ROCK CREEK, ASHTABULA COUNTY, OHIO



Photo No: 5 **Date: 8/17/06**
Photographer: A. Kocher **Direction: East**
Subject: A view of a cracked piezometer on
the Kraus Parcel.



Photo No: 6 **Date: 8/17/06**
Photographer: A. Kocher **Direction: N/A**
Subject: A view of hole created by natural
sinking or animals on the Kraus Parcel